

REMARKS

Reconsideration and allowance are respectfully requested.

The specification is amended in accordance with U.S. patent practice and to correct several grammatical informalities. No Previously Presented matter is believed to be added. Approval and entry are requested.

The Examiner objects to certain spellings in the claims. They are corrected as requested.

The Examiner indicates that claims 34, 35, 54, and 55 contain allowable subject matter. New claim 67 corresponds to claim 34 rewritten in independent claim format. New claim 68 corresponds to claim 35 rewritten in independent claim format. The allowable subject matter of claim 34 is added in apparatus form as a dependent claim depending from claim 56 in new claim 69. The allowable subject matter of claim 35 is added in apparatus form as a dependent claim depending from claim 56 in new claim 70. Claim 52 now incorporates the allowable subject matter of claim 54. Moreover, claim 55 is rewritten in independent claim format.

The Examiner rejects claims 32, 36-43, 46-53, and 56-65 for anticipation under 35 U.S.C. §102 based on Shattil 2008/0095121. This rejection is respectfully traversed.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991).

Shattil lacks all the features of independent claims 32 and 56. Both of these claims are amended to emphasize that the first and second nodes or the transmitter and receiver nodes are

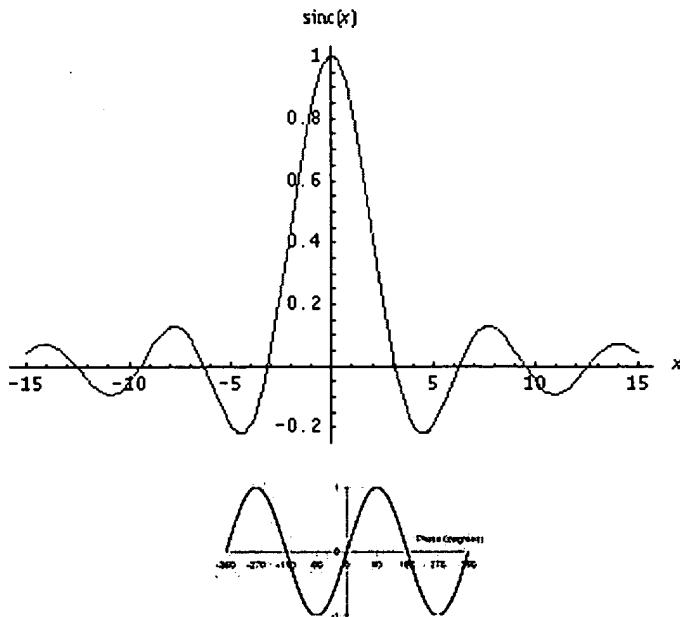
unsynchronized. For example, claim 32 recites: “[a] method for communication between unsynchronized nodes in a multi-carrier system,” “reserving a sub-set of carriers for communication between unsynchronized nodes,” “receiving the transmitted sinusoidal signal in a second node that is unsynchronized with the first node,” and “the second node interpreting the received sinusoidal signal including associating at least a frequency of the received sinusoidal signal with information about the identity of the first node from which the existence of the first node within radio communication distance is determined even though the second node is unsynchronized with the first node.”

The Examiner does not address this feature explicitly in the rejection but instead refers to “(a plurality of carriers, paragraph 0153)” and then later “(carriers assigned to a particular user, paragraph 0153).” But this paragraph says nothing about the transmitter and receiver nodes being unsynchronized. Nor is the assignment of carriers to a user is not relevant since the claims are directed to a sub-set of carriers assigned to a node. Similarly, in claim 41, the Examiner seems to ignore the fact that the claimed nodes are unsynchronized. Paragraphs 0160 and 0161 relate to the codes being orthogonal having phase relationships based on that orthogonality. Synchronization or the lack thereof is not addressed. Indeed, synchronization is assumed. But claims 32 and 56 deal with a situation where the transmitter and the receiver not yet synchronized. The background of this instant application explains the problems with prior art devices and methods using OFDM including the lack of a way to communicate between or even receive broadcast information from unsynchronized nodes. In addition, synchronization procedures are slow, demand high processing power and require considerable battery power. Unlike Shattil, which does not even recognize these problems, the technology in claims 32 and 56 solves them.

These claims also recite “transmitting from a first node a phase-continuous sinusoidal signal on said at least one carrier of the sub-set of carriers assigned to the first node during a predetermined transmission period, the predetermined transmission period corresponding to the duration of n consecutive ones of the predetermined symbol length, where n is an integer larger than 1.” The Examiner identifies the carrier signal in paragraphs 0139-0141. Is the Examiner contending that the sinc-shaped pulses, which is how paragraph 0139 describes the multicarrier-based signals, correspond to the claimed phase-continuous sinusoidal signal with a predetermined transmission period of at least two consecutive symbol lengths? Applicants do not agree that a sinc function can be said to be a sinusoidal signal or equivalent thereto. A sinusoidal signal has a constant amplitude, an angular frequency, and a phase angle. The amplitude in the sinc-signal is not constant. Their equations are set forth below and are different.

SINUS: $Y(t) = A \sin(x)$

SINC: $Y(t) = 1$ for $x=0$ and $[A \sin(x)]/(x)$ for other values of x . A plot of a sinc function is shown below and is different from that of a sin wave shown below the sinc wave.



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The Examiner is requested to clearly identify (1) what signal period is being referred to
(2) for what particular signal in Shattil.

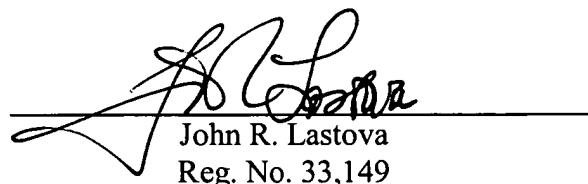
Lacking features from claims 32 and 56, the anticipation rejection should be withdrawn.

The application is in condition for allowance. An early notice to that effect is requested.

Respectfully submitted,

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